



# ***STIC Search Report***

## ***Biotech-Chem Library***

**STIC Database Tracking Number: 140670**

**TO: Ralph J Gitomer**  
**Location: 3d65 /3c71**  
**Tuesday, December 21, 2004**  
**Art Unit: 1651**  
**Phone: 272-0916**  
**Serial Number: 10 / 634506**

**From: Jan Delaval**  
**Location: Biotech-Chem Library**  
**Rem 1A51**  
**Phone: 272-2504**  
  
**jan.delaval@uspto.gov**

### **Search Notes**

JAN

1007

Access DB# 140696

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: R. G. TORRES Examiner #: 69630 Date: 12/12/07  
Art Unit: 1651 Phone Number 30 \_\_\_\_\_ Serial Number: 10/634 806  
Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL  
3065/3671

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

JAN

\*\*\*\*\*

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>aw</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: <u>22504</u>	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>✓</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>12/21</u>	Bibliographic _____	Dr. Link _____
Date Completed: <u>12/21</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>15</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>+90</u>	Other _____	Other (specify) _____

=> fil reg

FILE 'REGISTRY' ENTERED AT 10:26:25 ON 21 DEC 2004

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 19 DEC 2004 HIGHEST RN 799762-98-4

DICTIONARY FILE UPDATES: 19 DEC 2004 HIGHEST RN 799762-98-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

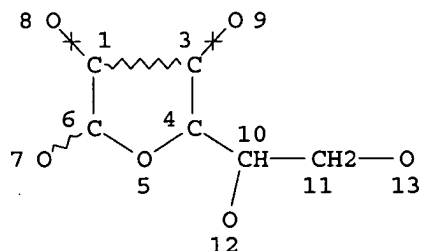
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que l72

L10 STR



NODE ATTRIBUTES:

CONNECT IS E1 RC AT 7

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

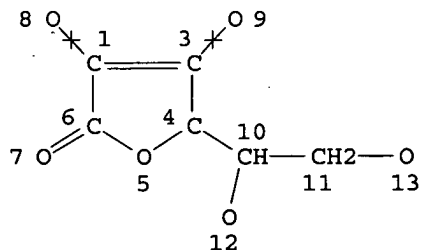
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L12 3811 SEA FILE=REGISTRY SSS FUL L10

L13 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

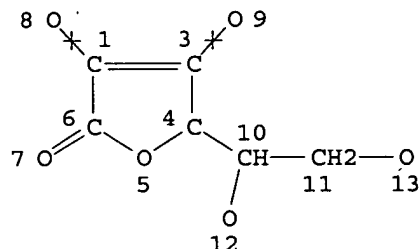
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 12

## STEREO ATTRIBUTES: NONE

L14 3113 SEA FILE=REGISTRY SUB=L12 SSS FUL L13

L71 STR



## NODE ATTRIBUTES:

CONNECT IS M2 RC AT 9

CONNECT IS M2 RC AT 12

CONNECT IS M2 RC AT 13

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 12

## STEREO ATTRIBUTES: NONE

L72 77 SEA FILE=REGISTRY SUB=L14 SSS FUL L71

100.0% PROCESSED 3113 ITERATIONS

77 ANSWERS

SEARCH TIME: 00.00.01

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(FILE 'HOME' ENTERED AT 09:03:16 ON 21 DEC 2004)

SET COST OFF

FILE 'HCAPLUS' ENTERED AT 09:04:08 ON 21 DEC 2004

L1 1 S (US20040029995 OR US20020176826)/PN OR (US2003-634506# OR US9  
E KLEE J/AU  
L2 141 S E3,E4,E8-E10  
E WALZ U/AU  
L3 32 S E3,E9  
E DENTSPLY/PA,CS  
L4 205 S E3-E72  
SEL RN L1

FILE 'REGISTRY' ENTERED AT 09:12:55 ON 21 DEC 2004

L5 29 S E1-E29  
L6 3 S L5 AND (OC4 OR OCOC2-OC4)/ES  
E C28H54O7SI2/MF  
L7 1 S E3 AND OC4/ES  
L8 STR  
L9 50 S L8  
L10 STR L8  
L11 50 S L10  
L12 3811 S L10 FUL

SAV L12 GITOMER634/A  
L13 STR L10  
L14 3113 S L13 FUL SUB=L12  
SAV L14 GITOMER634A/A  
L15 8 S 2618-77-1 OR 75-91-2 OR 80-15-9 OR 110-05-4 OR 614-45-9 OR 12  
L16 8 S 7439-89-6 OR 7439-96-5 OR 7440-02-0 OR 7440-22-4 OR 7440-45-1

FILE 'REGISTRY' ENTERED AT 09:20:29 ON 21 DEC 2004

L17 4 S 64-19-7 OR 69-72-7 OR 62-56-6 OR 123-54-6  
L18 6 S L5 NOT L14-L17  
L19 1 S 60-00-4  
L20 1 S L18 AND CU/ELS  
L21 3 S L6,L7  
L22 3110 S L14 NOT L21

FILE 'HCAPLUS' ENTERED AT 09:56:34 ON 21 DEC 2004

L23 1282 S L21  
L24 1 S L7  
L25 77368 S L14  
L26 77368 S L23-L25  
E POLYMERIZATION/CT  
E E3+ALL  
L27 198084 S E3,E2+NT  
E E23+ALL  
L28 124539 S E2+NT  
E E20+ALL  
E E26+ALL  
L29 27154 S E3,E4,E2+NT  
E E70+ALL  
E E18+ALL  
L30 1916 S E2  
E E4+ALL  
L31 553 S E3,E2  
E E4+ALL  
E E3+ALL  
L32 3441 S E2,E1+NT  
E E5+ALL  
E E20+ALL  
L33 61328 S E2+NT  
L34 53912 S E8+OLD,NT OR E9+OLD,NT OR E10+OLD,NT OR E11+OLD,NT OR E12+OLD  
E E13+ALL  
L35 161374 S E27 OR E28  
L36 1146 S L26 AND L27-L35  
L37 8382 S PROTECT?(L)REDUC?(L)AGENT  
L38 241 S L26 AND L37  
L39 1383 S L36,L38  
L40 15727 S L15  
E PEROXIDE/CT  
E E3+ALL  
E PEROXIDES/CT  
E E3+ALL  
L41 159916 S E6,E5+NT  
E E4+ALL  
L42 437 S E3,E2  
L43 208906 S E2+NT  
E PEROXIDE/CW  
L44 20830 S E3,E4  
L45 373 S L39 AND L40-L44  
L46 485 S L39 AND ?PEROX?  
L47 517 S L45,L46  
L48 89 S L47 AND L16,L17,L19  
L49 106 S L47 AND ?METAL?  
L50 177 S L47 AND (CU OR AG OR CR OR FE OR NI OR V OR MN OR CE OR ?COPP

L51 237 S L48-L50  
L52 3 S L51 AND L1-L4  
L53 3 S L1,L52,L24  
L54 151 S L51 AND (PD<=19980423 OR PRD<=19980423 OR AD<=19980423)  
E DENTAL/CT  
E E32+ALL  
L55 2297 S E2  
L56 1 S L54 AND L55  
E DENTAL MATERIAL/CT  
L57 1055 S E4  
E E5+ALL  
L58 5607 S E4,E5  
L59 23481 S E2+NT  
L60 3 S L54 AND L57-L59  
L61 4 S L53,L56,L60  
L62 9 S L51 AND L55,L57-L59  
L63 4 S L62 AND L61  
L64 5 S L62 NOT L63  
L65 4 S L64 NOT PEROXIDASE/AB  
L66 8 S L63,L65  
L67 3 S L54 AND (DENTAL? OR DENTIST?)  
L68 26 S L54 AND (PHARMACEUT? OR PHARMACOL?)/SC,SX  
L69 8 S L66,L67  
L70 23 S L68 NOT L69

FILE 'REGISTRY' ENTERED AT 10:16:08 ON 21 DEC 2004

L71 STR L13  
L72 77 S L71 FUL SUB=L14  
SAV L72 GITOMER634B/A  
L73 76 S L72 NOT L6,L7

FILE 'HCAPLUS' ENTERED AT 10:19:06 ON 21 DEC 2004

L74 112 S L73  
L75 0 S L74 AND L54  
L76 2 S L74 AND L27-L35,L37  
L77 2 S L74 AND L40-L44  
L78 4 S L74 AND ?PEROX?  
L79 6 S L76-L78  
L80 0 S L79 AND L16,L17,L19  
L81 2 S L79 AND HYDROGEN PEROXIDE  
L82 1 S L79 AND H2O2  
L83 4 S L81,L82,L76  
L84 2 S L79 NOT L83  
L85 0 S L83 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)  
L86 53 S L73 (L) (THU OR PAC OR PKT OR DMA OR COS OR BAC)/RL  
L87 46 S L74 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)  
L88 10 S L86 AND L87  
L89 10 S L87 AND (PHARMACEUT? OR PHARMACOL?)/SC,SX  
L90 11 S L87 AND COSMETIC?/SC,SX  
L91 22 S L87 AND PATENT/DT  
L92 29 S L88-L91  
L93 17 S L87 NOT L92

FILE 'REGISTRY' ENTERED AT 10:26:25 ON 21 DEC 2004

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 10:26:39 ON 21 DEC 2004

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FILE COVERS 1907 - 21 Dec 2004 VOL 141 ISS 26  
FILE LAST UPDATED: 20 Dec 2004 (20041220/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 169 all hitstr tot

L69 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:551200 HCAPLUS  
DN 139:106536  
ED Entered STN: 18 Jul 2003  
TI Self-curing systems containing thiourea and **hydroperoxide** derivatives for endodontic sealant applications  
IN Jin, Shuhua; Jia, Weitao  
PA USA  
SO U.S. Pat. Appl. Publ., 7 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM A61K006-00  
NCL 523115000; 523120000  
CC 63-7 (Pharmaceuticals)  
Section cross-reference(s): 37  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003134933	A1	20030717	US 2002-252073	20020920
PRAI	US 2001-323615P	P	20010920		

#### CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003134933	ICM	A61K006-00
	NCL	523115000; 523120000

AB A two-part self-curing endodontic sealing system comprises a thiourea derivative, such as acetylthiourea (ATU), and a **hydroperoxide**, such as cumene **hydroperoxide** (CHP). The thiourea derivative is used as a reducing agent and the **hydroperoxide** is used as an oxidizing agent. For example, ATU and CHP pastes were prepared using a methacrylate resin (Bis-GMA-TEGDMA copolymer, 60:40) and fillers. The CHP paste contained resin 33%, BHT 0.005%, CHP 1%, and glass filler 66%. The ATU paste contained resin 33%, BHT 0.03%, ATU 1%, methacrylic acid 3.3%, Ca3(PO4)2 31.5%, and BaSO4 31.5%. Gel time and setting time of a self-curing system obtained by mixing these two pastes in a 1:1 ratio at 22° were 4 min and 30 s, and 6 min and 30 s., resp.

ST thiourea **hydroperoxide** polymer self crosslinking dental sealant;  
oxidizing reducing agent polymer self crosslinking dental sealant

IT Polycarbonates, biological studies  
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(acrylic, polymerizable resin containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)

- IT Quaternary ammonium compounds, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(alkylbenzyltrimethyl, chlorides; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT **Crosslinking**  
(autocrosslinking; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT **Dental materials and appliances**  
(cements; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants and cements)
- IT Imaging agents  
(contrast, radiog.; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Borosilicates  
Glass, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(filler; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Silicate glasses  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(fillers; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Transition metal halides  
RL: CAT (Catalyst use); USES (Uses)  
(**iron** halides, redox initiator system containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Polyurethanes, biological studies  
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(methacrylates, polymerizable resin containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Esters, uses  
RL: CAT (Catalyst use); USES (Uses)  
(per; redox initiator system containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT **Polymerization catalysts**  
(photopolymer.; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Acrylic polymers, biological studies  
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(polycarbonate-, polymerizable resin containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Amines, uses  
**Copper** halides  
RL: CAT (Catalyst use); USES (Uses)  
(redox initiator system containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)



- IT **Polymerization catalysts**  
(redox; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT **Dental materials and appliances**  
(sealants; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Analgesics  
Anesthetics  
Anti-inflammatory agents  
Antibacterial agents  
Antibiotics  
Antihistamines  
Antimicrobial agents  
Antitumor agents  
Fungicides  
Oxidizing agents  
**Polymerization inhibitors**  
Reducing agents  
Stabilizing agents  
(self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT Steroids, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT 25087-26-7, Poly(methacrylic acid)  
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(filler; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT 1305-62-0, Calcium hydroxide, biological studies 1306-06-5, Calcium hydroxyapatite 1313-96-8, Niobium oxide 1314-23-4, Zirconia, biological studies 1314-61-0, Tantalum oxide 1332-29-2, Tin oxide 1344-28-1, Alumina, biological studies 7631-86-9, Silica, biological studies 7727-43-7, Barium sulfate 10103-46-5, Calcium phosphate 12627-14-4, Lithium silicate 12650-28-1, Barium silicate 12712-63-9, Strontium silicate 13463-67-7, Titania, biological studies 14808-60-7, Quartz, biological studies 17989-77-4, Barium methacrylate 37280-52-7, Boron strontium silicate (B2Sr(SiO4)2) 50647-33-1, Barium boron silicate (BaB2(SiO4)2) 52934-88-0, Barium molybdate 84057-81-8  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(filler; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT 25852-47-5, Polyethylene glycol dimethacrylate 561030-95-3  
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(polymerizable resin containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT 109-16-0, TEGDMA 868-77-9, 2-Hydroxyethyl methacrylate 1565-94-2, BIS-GMA 6606-59-3, HDDMA 72869-86-4, UDMA  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(polymerizable resin containing; self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)
- IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, uses 108-95-2, Phenol, uses 118-75-2, Chloranil, uses 123-31-9, Hydroquinone, uses 128-37-0, Butylated hydroxytoluene, uses 150-76-5, Hydroquinone monomethyl ether  
RL: CAT (Catalyst use); USES (Uses)

(polymerization inhibitor; self-curing system containing polymerizable resin,

thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)

IT 50-81-7, L-Ascorbic acid, uses 67-52-7D, Barbituric acid, compds. 94-36-0, Benzoyl **peroxide**, uses 137-66-6, Ascorbyl palmitate 504-17-6D, Thiobarbituric acid, compds.

RL: CAT (Catalyst use); USES (Uses)

(redox initiator system containing; self-curing system containing polymerizable

resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)

IT 26426-05-1, BisGMA-TEGDMA copolymer 561030-94-2

RL: POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use);

BIOL (Biological study); USES (Uses)

(self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)

IT 75-47-8, Iodoform 75-91-2, tert-Butyl **hydroperoxide** 79-41-4, Methacrylic acid, biological studies 80-15-9, Cumene **hydroperoxide** 89-32-7, Pyromellitic dianhydride 94-26-8, Butyl p-hydroxybenzoate 97-53-0, Eugenol 98-49-7 100-52-7, Benzaldehyde, biological studies 103-85-5, Phenylthiourea 109-57-9, Allylthiourea 591-08-2, Acetylthiourea 1314-13-2, Zinc oxide, biological studies 3077-71-2 3380-34-5, Triclosan 7758-87-4, Calcium phosphate (Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>) 9004-10-8, Insulin, biological studies 28497-59-8 70293-55-9

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(self-curing system containing polymerizable resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)

IT 50-81-7, L-Ascorbic acid, uses 94-36-0, Benzoyl **peroxide**, uses 137-66-6, Ascorbyl palmitate

RL: CAT (Catalyst use); USES (Uses)

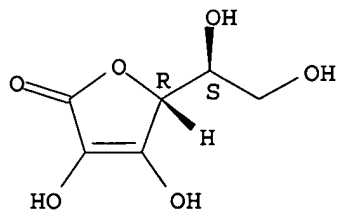
(redox initiator system containing; self-curing system containing polymerizable

resin, thiourea reducing agent and **hydroperoxide** oxidizing agent for endodontic sealants)

RN 50-81-7 HCAPLUS

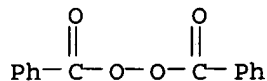
CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 94-36-0 HCAPLUS

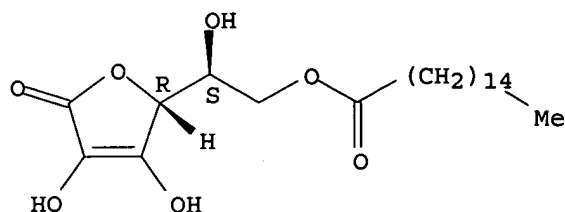
CN Peroxide, dibenzoyl (9CI) (CA INDEX NAME)



RN 137-66-6 HCAPLUS

CN L-Ascorbic acid, 6-hexadecanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 75-91-2, tert-Butyl hydroperoxide 80-15-9,

Cumene hydroperoxide

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(self-curing system containing polymerizable resin, thiourea reducing agent and hydroperoxide oxidizing agent for endodontic sealants)

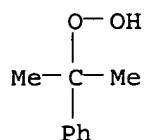
RN 75-91-2 HCAPLUS

CN Hydroperoxide, 1,1-dimethylethyl (9CI) (CA INDEX NAME)

HO-O-Bu-t

RN 80-15-9 HCAPLUS

CN Hydroperoxide, 1-methyl-1-phenylethyl (9CI) (CA INDEX NAME)



L69 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:902214 HCAPLUS

DN 138:1668

ED Entered STN: 27 Nov 2002

TI Purification and characterization of an autoclavable superoxide dismutase (SOD) isozyme from Potentilla atrosanguinea, and use of the SOD in cosmetic, food and pharmaceutical compositions

IN Kumar, Sanjay; Sahoo, Rashmita; Ahuja, Paramvir Singh

PA Council of Scientific & Industrial Research (CSIR), India

SO U.S., 30 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C12N009-02

ICS C12N009-00; A61K038-44

NCL 435189000; 435183000; 424094400

CC 7-2 (Enzymes)

Section cross-reference(s): 17, 62, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6485950	B1	20021126	US 2000-617118	20000714
	US 2003064494	A1	20030403	US 2002-274053	20021021
PRAI	US 2000-617118	A3	20000714		

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

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US 6485950 ICM C12N009-02  
ICS C12N009-00; A61K038-44  
NCL 435189000; 435183000; 424094400

US 6485950 ECLA A23G003/30+D2; C12N009/02M

US 2003064494 ECLA A23G003/30+D2; C12N009/02M

AB The invention relates to a novel purified isoenzyme of an autoclavable **superoxide** dismutase extracted from the plant *Potentilla atrosanguinea* Lodd. variety *argyrophylla*. The **superoxide** dismutase has the following characteristics: O<sub>2</sub>-scavenging activity remains same before and after autoclaving; scavenges O<sub>2</sub>- from sub-zero temperature of -20° C. to high temperature of +80°.; O<sub>2</sub>- scavenging activity at 25° for 30 days without adding any stabilizing agent such as polyols or sugars; O<sub>2</sub>-scavenging activity in the presence of saline (0.9% sodium chloride) to 61.8% of the control (without 0.9% sodium chloride), stable at 4° for at least 8 mo; contamination free and infection free from any living micro- and/or macro-organism after autoclaving. The enzyme possesses temperature optima at 0°; possesses a mol. weight of 33 kD under non-denaturing conditions; possesses a mol. weight of 36 kD under denaturing conditions; has clear peaks in UV range at 268 and 275 nm; has an enzyme turnover number of 19.53+104% per nmol per min at 0°; and requires Cu/Zn as a co-factor. The invention also relates to a process for the extraction of the **superoxide** dismutase and its use in preparing cosmetic, pharmaceutical and food compns. The method for the preparation of the purified isoenzyme of autoclavable **superoxide** dismutase and formulations containing the said autoclavable **superoxide** dismutase are disclosed.

ST *Potentilla* **superoxide** dismutase autoclavable isoenzyme cosmetics food pharmaceutical

IT Alcohols, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(C16-18, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Fats and Glyceridic oils, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(Japan wax, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Gel electrophoresis  
(PAGE, SOD detection using; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Caseins, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(SOD coimmobilized with; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT *Geum elatum*  
(SOD from; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Polysaccharides, uses  
RL: NUU (Other use, unclassified); USES (Uses)

(SOD immobilization; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Monoglycerides

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(acetates, gums containing; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Drug delivery systems

(aerosols; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Fats and Glyceridic oils, biological studies

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(almond, compns. containing; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Antibodies and Immunoglobulins

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); BIOL (Biological study); PREP (Preparation); USES (Uses)

(anti-SOD; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Dentifrices

(antiplaque; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Heating

(autoclaving; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Fats and Glyceridic oils, biological studies

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(avocado, compns. containing; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT *Raphanus sativus*

(black radish, **peroxidase**; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Fats and Glyceridic oils, biological studies

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(borage seed, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Cosmetics

(cleansing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

- IT Immobilization, molecular or cellular  
(coimmobilization; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Metabolic pathways  
(composition containing pentose monophosphate shunt enzymes; purification and  
and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Enzymes, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
(composition containing pentose monophosphate shunt enzymes; purification and  
and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Amphiphiles  
Analgesics  
Anti-inflammatory agents  
Antibacterial agents  
Antibiotics  
Antimicrobial agents  
Antioxidants  
Beeswax  
Carriers  
Coloring materials  
Emulsifying agents  
Feed additives  
Flavoring materials  
Hemostatics  
Perfumes  
Preservatives  
Radical scavengers  
Surfactants  
Vaccines  
(compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Castor oil  
Coconut oil  
Corn oil  
Essential oils  
Fats and Glyceridic oils, biological studies  
Fatty acids, biological studies  
Glycerides, biological studies  
Hormones, animal, biological studies  
Hydrocarbon oils  
Melanins  
Olive oil  
Palm oil  
Paraffin oils  
Phosphatidylcholines, biological studies  
Phosphatidylethanolamines, biological studies  
Polyoxyalkylenes, biological studies  
Soybean oil

Steroids, biological studies  
Sulfites  
Thiols (organic), biological studies  
Tocopherols  
Vitamins  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
    (compns. containing; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Polyamides, biological studies  
Polyurethanes, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
    (compns. containing; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Drug delivery systems  
    (controlled-release; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Cosmetics  
    (cosmetic dyes; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Dyes  
    (cosmetic; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Cosmetics  
    (creams; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Scalp  
    (disease, treatment of; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Gelatins, biological studies  
Ovalbumin  
    **Polymers, biological studies**  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
    (drug delivery system containing; purification and characterization of  
    autoclavable **superoxide** dismutase (SOD) isoenzyme from  
    *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and  
    pharmaceutical compns.)

IT Lecithins  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
    (egg yolk, compns. containing; purification and characterization of  
autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*  
    *atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical  
    compns.)

IT Cosmetics  
Drug delivery systems  
    (emollients; purification and characterization of autoclavable  
    **superoxide** dismutase (SOD) isoenzyme from *Potentilla*

- atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(emulsions; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Immobilization, molecular or cellular  
(enzyme; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Fats and Glyceridic oils, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(evening primrose, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Alcohols, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(fatty, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(film; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Cosmetics  
Drug delivery systems  
(gels; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(glycospheres; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Fillers  
Plasticizers  
(gums containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Rubber, biological studies  
Waxes  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(gums containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Enzymes, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(immobilized; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)



- IT Fatty acids, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
(lanolin, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(liposomes; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Anesthetics  
(local, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Glycerides, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
(long-chain, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Cosmetics  
Drug delivery systems  
(lotions; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(lozenges; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Cosmetics  
(makeup removers; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Glycerides, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
(medium-chain, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(microgranules; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Cosmetics  
(moisturizers; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Antibodies and Immunoglobulins  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use);  
BIOL (Biological study); USES (Uses)  
(monoclonal, compns. containing; purification and characterization of

autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

- IT   Cosmetics  
      (mousses; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Cosmetics  
      (nail lacquers; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (nanospheres; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Liquids  
      (oils; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (ointments, creams; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (ointments; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (ophthalmic; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (oral; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (parenterals; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Drug delivery systems  
      (pastes; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Spinal cord  
      (**peroxidase**; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Immobilization, molecular or cellular  
      (protein; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT   Aerosols
- Buffers

Cosmetics

**Dental materials and appliances**

Dentifrices

Deodorants

Dialysis

Drug delivery systems

Drugs

Food additives

Gums and Mucilages

HPLC

Hair preparations

Homogenization

Ion exchange chromatography

Leaf

Potentilla

Potentilla argyrophylla atosanguinea

Precipitation (chemical)

Shampoos

Solutions

Sprays

Stability

Sunscreens

Tablets

Thermal stability

(purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Antiperspirants

(roll-on; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Albumins, biological studies

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(serum, SOD coimmobilized with; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Fats and Glyceridic oils, biological studies

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(sesame, compns. containing; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from Potentilla atosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Cosmetics

(skin-lightening, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Drug delivery systems

(solns.; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT Lecithins

Phospholipids, biological studies

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(soya, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla

- atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Proteins  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(soybean, drug delivery system containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(sprays; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Cosmetics  
(sticks; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(suspensions; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(tablets; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(topical; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(transdermal; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Psoriasis  
Seborrhea  
Skin, disease  
(treatment of; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Fats and Glyceridic oils, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(vegetable, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Drug delivery systems  
(vesicular dispersions; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)
- IT Fats and Glyceridic oils, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(wheat germ, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from

Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

## IT Tannins

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(zinc salts, compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

## IT 99-96-7D, alkyl esters

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(Parabens, compns. containing; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

## IT 9002-07-7, Trypsin

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(SOD coimmobilized with; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

## IT 9002-89-5, Polyvinyl alcohol 9004-53-9, Dextrin 9004-54-0, Dextran, uses

RL: NUU (Other use, unclassified); USES (Uses)

(SOD immobilization; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

## IT 56-81-5, Glycerol, biological studies

RL: ARU (Analytical role, unclassified); COS (Cosmetic use); FFD (Food or feed use); NUU (Other use, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from Potentilla atrosanguinea, and use of SOD in cosmetic, food and pharmaceutical compns.)

## IT 50-70-4D, Sorbitol, esters 50-81-7, Vitamin C, biological

studies 52-90-4, L-Cysteine, biological studies 57-10-3, Palmitic acid, biological studies 57-10-3D, Palmitic acid, glycerides 57-11-4, Stearic acid, biological studies 57-41-0, Phenytoin 57-50-1, Sucrose, biological studies 57-55-6, Propylene glycol, biological studies 58-08-2, Caffeine, biological studies 58-95-7, Tocopherol acetate 59-02-9,  $\alpha$ -Tocopherol 60-33-3, Linoleic acid, biological studies 60-33-3D, Linoleic acid, glycerides 62-53-3, Aniline, biological studies 63-42-3, Lactose 63-68-3, L-Methionine, biological studies 64-17-5, Ethanol, biological studies 67-56-1, Methanol, biological studies 67-63-0, Isopropanol, biological studies 69-93-2, Uric acid, biological studies 70-18-8, Reduced glutathione, biological studies 71-23-8, Propanol, biological studies 71-36-3, Butanol, biological studies 74-79-3, L-Arginine, biological studies 77-09-8, Phenolphthalein 87-99-0, Xylitol 90-05-1, Guaiacol 106-69-4, 1,2,6-Hexanetriol 107-21-1, Ethylene glycol, biological studies 107-35-7, Taurine 108-95-2, Phenol, biological studies 110-27-0, Isopropyl myristate 110-36-1, Butyl myristate 112-53-8, Lauryl alcohol 112-72-1, Myristyl alcohol 112-80-1, Oleic acid, biological studies 112-80-1D, Oleic acid, glycerides 112-85-6, Behenic acid 112-86-7, Erucic acid 112-92-5, Stearyl alcohol 122-99-6, Phenoxyethanol 124-07-2D, Caprylic acid, glycerides 124-07-2D, Octanoic acid, hydroxylated polyisobutenyl derivs. 127-17-3, biological studies 127-82-2, Zinc phenol sulfonate 128-44-9, Sodium saccharinate 141-22-0, Ricinoleic acid 142-91-6,

Isopropyl palmitate 143-07-7, Lauric acid, biological studies 143-07-7D, Lauric acid, glycerides 143-28-2, Oleyl alcohol 302-04-5, Thiocyanate, biological studies 334-48-5D, Capric acid, glycerides 364-98-7, Diazoxide 404-86-4, Capsaicin 463-40-1, Linolenic acid 463-40-1D, Linolenic acid, glycerides 506-30-9, Arachidic acid 526-84-1, Dihydroxymaleic acid 527-60-6, Mesitol 538-23-8, Octanoic acid triglyceride 540-11-4, Ricinoleyl alcohol 544-63-8, Myristic acid, biological studies 544-63-8D, Myristic acid, alkyl esters 544-63-8D, Myristic acid, glycerides 546-46-3, Zinc citrate 553-72-0, Zinc benzoate 557-34-6, Zinc acetate 585-86-4, Lactitol 616-91-1, N-Acetyl-L-cysteine 621-71-6 628-97-7, Ethyl palmitate 629-98-1, Erucyl alcohol 661-19-8, Behenyl alcohol 1300-26-1, Zinc glycerophosphate 1314-13-2, Zinc oxide, biological studies 1314-22-3, Zinc **peroxide** 1330-70-7, Hydroxystearic acid 1332-07-6, Zinc borate 1406-18-4, Vitamin E 1464-42-2, Selenomethionine 2599-01-1, Cetyl myristate 2724-58-5, Isostearic acid 2814-60-0 3068-00-6, 1,2,4-Butanetriol 3460-37-5, Hexyl stearate 3486-35-9, Zinc carbonate 3614-08-2, Selenocysteine 4345-03-3 4468-02-4, Zinc gluconate 5333-42-6, 2-Octyl-dodecanol 7235-40-7,  $\beta$ -Carotene 7631-86-9, Silica, biological studies 7646-85-7, Zinc chloride, biological studies 7681-49-4, Sodium fluoride, biological studies 7699-45-8, Zinc bromide 7733-02-0, Zinc sulfate 7779-88-6, Zinc nitrate 7782-49-2, Selenium, biological studies 9001-48-3, Glutathione reductase 9003-20-7, Polyvinyl acetate 9003-99-0, **Peroxidase** 9004-61-9, Hyaluronic acid 9005-00-9, Steareth-2 9005-63-4D, Polyoxyethylenesorbitan, fatty acid esters 9007-43-6, Cytochrome c, biological studies 9013-66-5, Glutathione **peroxidase** 10191-41-0, DL- $\alpha$ -Tocopherol 10401-55-5, Cetyl ricinoleate 11103-57-4, Vitamin A 11126-29-7, Zinc silicate 12441-09-7D, Sorbitan, fatty acid esters 12651-25-1, Zinc titanate 13463-41-7, Zinc pyrithione 13826-88-5, Zinc tetrafluoroborate 14281-83-5, Zinc glycinate 16283-36-6, Zinc salicylate 16871-71-9, Zinc hexafluorosilicate 16887-00-6, Chloride, biological studies 16984-48-8, Fluoride, biological studies 18312-31-7, Stearyl octanoate 20461-54-5, Iodide, biological studies 24959-67-9, Bromide, biological studies 25231-21-4, Polypropylene glycol stearyl ether 25265-75-2, Butylene glycol 25322-68-3, Polyethylene glycol 25322-69-4, Polypropylene glycol 25618-55-7D, Polyglycerin, fatty acid esters 26281-43-6, 3,5-Dichloro-2-hydroxybenzenesulfonic acid 27458-93-1, Isostearyl alcohol 32797-18-5, 1,3-Butadien-1-ol 36653-82-4, Hexadecyl alcohol 38304-91-5, Minoxidil 39467-17-9, Zinc stannate 51744-92-4,  $\alpha$ -Tocopheryl linoleate 52225-20-4 52296-98-7, Octadecanediol 71276-50-1,  $\alpha$ -Tocopherol phosphate 77752-14-8, Purcellin oil 476494-41-4

RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 67-66-3, Chloroform, biological studies 9003-01-4, Polyacrylic acid 9003-07-0, Polypropylene 9004-57-3, Ethyl cellulose 9004-64-2, Hydroxypropylcellulose 9004-65-3, Hydroxypropylmethylcellulose 9004-67-5, Methylcellulose 9005-25-8D, Starch, derivs

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 9054-89-1P, **Superoxide** dismutase

RL: ANT (Analyte); BSU (Biological study, unclassified); COS (Cosmetic use); FFD (Food or feed use); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL

(Biological study); PREP (Preparation); USES (Uses)

(**copper**-zinc-containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 83-88-5, Riboflavine, uses 298-83-9, Nitroblue tetrazolium  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(determination of SOD by PAGE; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 9003-05-8, Polyacrylamide  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(determination of SOD by PAGE; purification and characterization of autoclavable

**superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 9000-01-5, Gumarabic  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(drug delivery system containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 53-57-6, NADPH  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(pentose monophosphate shunt pathway enzymes regenerating; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 11062-77-4, **Superoxide**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 9000-92-4, Amylase  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

IT 7447-40-7, Potassium chloride (KCl), uses 7783-20-2, Ammonium sulfate, uses 9013-34-7, DEAE cellulose  
RL: NUU (Other use, unclassified); USES (Uses)  
(purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

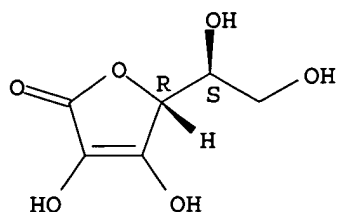
- (1) Beuno; Plant Physiol 1995, V108, P1151
- (2) Gudín; US 5536654 A 1996 HCAPLUS
- (3) Gupta; PNAS, USA 1993, V90, P1629 MEDLINE
- (4) Miyata; US 4563349 A 1986 HCAPLUS

IT 50-81-7, Vitamin C, biological studies  
RL: COS (Cosmetic use); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(compns. containing; purification and characterization of autoclavable **superoxide** dismutase (SOD) isoenzyme from *Potentilla atrosanguinea*, and use of SOD in cosmetic, food and pharmaceutical compns.)

RN 50-81-7 HCAPLUS

CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



L69 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:923570 HCAPLUS

DN 136:58872

ED Entered STN: 21 Dec 2001

TI Low shrinking polymerizable dental material

IN Walz, Uwe; Klee, Joachim E.

PA Dentsply International Inc., USA

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K006-083

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 36

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001095862	A1	20011220	WO 2001-US18930	20010613
	W: CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	CA 2411464	AA	20011220	CA 2001-2411464	20010613
	EP 1289473	A1	20030312	EP 2001-946292	20010613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2004503477	T2	20040205	JP 2002-510044	20010613
PRAI	US 2000-211289P	P	20000613		
	WO 2001-US18930	W	20010613		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001095862	ICM	A61K006-083
JP 2004503477	FTERM	4C089/AA11; 4C089/BA01; 4C089/BA05; 4C089/BA11; 4C089/BD04; 4C089/BE03; 4C089/CA08

AB A low shrinking polymerizable dental material includes a mixture of a polymerizable di- or poly(meth)acrylate, an alkoxyated bisphenol dimethacrylate, a polymerizable monomer, a polymerization initiator and/or sensitizer, a stabilizer and a filler in a content of 70-85%. The volumetric shrinkage during polymerization is less than 2.0%. For example, a dental resin was prepared by mixing homogeneously under stirring and heating at 40° 27.864 g 2,2-bis[p-(2-hydroxy-3-methacryloyloxypropoxy)phenyl]propane, 61.308 g ethoxylated Bis-GMA CD540, 2.500 g diethylene glycol dimethacrylate and 0.330 di-Bu tin laurate. To this reaction mixture 7.898 g hexamethylene diisocyanate were added and reacted until the absorption band of isocyanate completely disappeared at 2220 cm. Thereafter 0.1 g 2,6-di-tert-butyl-4-cresol, 0.300 g camphor quinone and 0.350 g dimethylaminobenzoic acid Et ester were dissolved in the polymerizable matrix resin. This resin has a viscosity at 23° of 57.3±0.8 Pa·s and a refractive index at 20° of 1.5360.



Using 24.350 g polymerizable matrix resin and 75.650 g barium aluminosilicate glass, a dental composite was prepared by mixing and stirring under vacuum. The composite obtained showed compressive strength of  $342 \pm 14$  MPa, flexural strength of  $119 \pm 14$  MPa, and E-modules of  $8000 \pm 592$  MPa.

- ST dental filling resin composite polymn shrinkage
- IT Amines, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 / (aliphatic, tertiary; low shrinking polymerizable dental filling material)
- IT Amines, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (aryl, tertiary; low shrinking polymerizable dental filling material)
- IT Aluminosilicate glasses  
 RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)  
 (barium aluminosilicate; low shrinking polymerizable dental filling material)
- IT **Metals, uses**  
 RL: CAT (Catalyst use); USES (Uses)  
 (compds.; low shrinking polymerizable dental filling material)
- IT Glass fibers, biological studies  
 RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)  
 (fillers; low shrinking polymerizable dental filling material)
- IT **Polymers, biological studies**  
 RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)  
 (granules, fillers; low shrinking polymerizable dental filling material)
- IT Antimicrobial agents  
 Stabilizing agents  
 (low shrinking polymerizable dental filling material)
- IT **Polymerization catalysts**  
 (photopolymn.; low shrinking polymerizable dental filling material)
- IT Contraction (mechanical)  
 (polymerization; low shrinking polymerizable dental filling material)
- IT **Polymerization catalysts**  
 (redox; low shrinking polymerizable dental filling material)
- IT **Dental materials and appliances**  
 (resins; low shrinking polymerizable dental filling material)
- IT **Polymerization**  
 (shrinking; low shrinking polymerizable dental filling material)
- IT 1304-76-3, Bismuth oxide ( $\text{Bi}_2\text{O}_3$ ), biological studies 1312-81-8, Lanthanum oxide ( $\text{La}_2\text{O}_3$ ) 1314-23-4, Zirconium oxide ( $\text{ZrO}_2$ ), biological studies 7783-48-4, Strontium fluoride ( $\text{SrF}_2$ ) 7787-42-0, Barium tungstate ( $\text{BaWO}_4$ ) 7790-75-2, Calcium tungstate ( $\text{CaWO}_4$ ) 10049-01-1, Bismuth phosphate ( $\text{BiPO}_4$ )  
 RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)  
 (filler; low shrinking polymerizable dental filling material)
- IT 50-81-7, Ascorbic acid, uses 94-36-0, Dibenzoyl peroxide, uses 13840-40-9D, Phosphine oxide, acyl derivs. 35683-46-6, Peroxy benzoate  
 RL: CAT (Catalyst use); USES (Uses)  
 (low shrinking polymerizable dental filling material)
- IT 128-37-0, 2,6-Di-tert-butyl-p-cresol, biological studies 91528-47-1, Ethyl dimethylaminobenzoate  
 RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)  
 (low shrinking polymerizable dental filling material)
- IT 381725-19-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses).

(low shrinking polymerizable dental filling material)

IT 109-16-0, Triethylene glycol dimethacrylate 646-06-0D, Dioxolane, methacrylate derivs. 822-06-0, Hexamethylene diisocyanate 1565-94-2, Bis-GMA 2358-84-1, Diethylene glycol dimethacrylate 3454-28-2, Furfuryl methacrylate 7401-88-9, Glycerin trimethacrylate 15625-89-5, Trimethylol propane triacrylate 37353-75-6D, propoxylated 43048-08-4 155045-85-5D, ethoxylated

RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(low shrinking polymerizable dental filling material)

IT 381725-20-8P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(low shrinking polymerizable dental filling material)

IT 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid, esters, polymers

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(low shrinking polymerizable dental filling material)

IT 55-56-1, Chlorhexidine 3380-34-5, Triclosan

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(low shrinking polymerizable dental filling material containing antimicrobial agent)

IT 3524-62-7, Benzoinmethyl ether 10373-78-1, Camphor quinone

RL: CAT (Catalyst use); USES (Uses)

(polymerization initiator; low shrinking polymerizable dental filling material)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Dentsply Detrey GmbH; EP 0951894 A 1999 HCAPLUS

(2) Dentsply Int Inc; WO 9843596 A 1998 HCAPLUS

(3) Dentsply Int Inc; WO 9848766 A 1998 HCAPLUS

(4) Heraeus Kulzer GmbH & Co Kg; EP 0995421 A 2000 HCAPLUS

(5) Jeneric Pentron Inc; EP 0853939 A 1998 HCAPLUS

(6) Minnesota Mining & Mfg; WO 9747272 A 1997 HCAPLUS

(7) Minnesota Mining & Mfg; WO 9966880 A 1999 HCAPLUS

IT 50-81-7, Ascorbic acid, uses 94-36-0, Dibenzoyl peroxide, uses

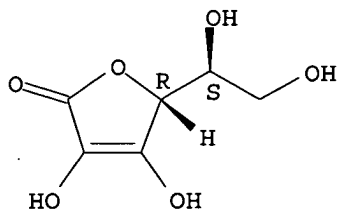
RL: CAT (Catalyst use); USES (Uses)

(low shrinking polymerizable dental filling material)

RN 50-81-7 HCAPLUS

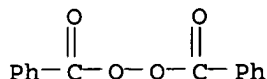
CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 94-36-0 HCAPLUS

CN Peroxide, dibenzoyl (9CI) (CA INDEX NAME)



L69 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:319685 HCAPLUS  
 DN 134:331678  
 ED Entered STN: 04 May 2001  
 TI Dental filling and sealing compositions comprising acrylic polymers  
 IN Qian, Xuejun  
 PA Kerr Corp., USA  
 SO PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K006-00  
 ICS A61K006-083; A61K006-08; A61K006-09  
 CC 63-7 (Pharmaceuticals)  
 Section cross-reference(s): 38  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001030302	A1	20010503	WO 2000-US41289	20001019
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6353041	B1	20020305	US 1999-425477	19991022
	US 6472454	B1	20021029	US 2000-657961	20000908
	BR 2000014794	A	20020611	BR 2000-14794	20001019
	EP 1221928	A1	20020717	EP 2000-984551	20001019
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003512403	T2	20030402	JP 2001-532722	20001019
PRAI	US 1999-425477	A	19991022		
	US 2000-657961	A	20000908		
	WO 2000-US41289	W	20001019		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001030302	ICM	A61K006-00
	ICS	A61K006-083; A61K006-08; A61K006-09
US 6353041	ECLA	A61K006/00D; A61K006/083; A61K006/09
US 6472454	ECLA	A61K006/00D; A61K006/083; A61K006/09

AB A two part composition for sealing and/or filling root canals is disclosed. One or more elastomeric (meth)acrylate oligomers are mixed with one or more diluent comonomers, one or more radiopaque fillers and one or more polymerization initiator systems. One or more antimicrobial agents may also be included in the composition. The components are mixed, undergo a setting reaction and are subsequently cured. In use, the composition is easily removed from the tooth structure if rework is needed, yet provides a tight and effective seal in the root canal. The composition also has a desirable flowable consistency and exhibits good adhesiveness with a tooth substrate. A base resin mixture composition contained HEMA 8.00, TEGDMA 15.00, CN966 31.18, 2-(2-ethoxyethoxy)ethyl acrylate 3.46, SR604 30.00, dibutyl phthalate 10.00, benzalkonium chloride 1.00, N,N-dihydroxyethyl-p-toluidine 1.30, and BHT 0.06%. A catalyst resin mixture composition contained HEMA 8.00, TEGDMA 15.00, CN966 30.74, MEMA 5.00, 2-(2-ethoxyethoxy)ethyl acrylate 3.42, SR604 25.00, dibutyl phthalate 10.00, benzalkonium chloride 1.00, benzoyl peroxide 1.70, and BHT 0.14%. The mixed base and catalyst paste had a working time of 24 min and set time of 43 min. The

set material had a SHore A hardness of 82, a flexural modulus of 8 MPa and a flexural strength of 1.4 MPa.

- ST dental filling sealing acrylic polymer
- IT Polyurethanes, biological studies  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (acrylates; dental filling and sealing compns. comprising acrylic polymers)
- IT Quaternary ammonium compounds, biological studies  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (alkylbenzyl dimethyl, chlorides; dental filling and sealing compns. comprising acrylic polymers)
- IT Antimicrobial agents  
 Oxidizing agents  
 Plasticizers  
**Polymerization catalysts**  
 Redox reaction catalysts  
 Reducing agents  
 Surfactants  
 Tooth  
 Wetting agents  
 (dental filling and sealing compns. comprising acrylic polymers)
- IT Acrylic polymers, biological studies  
 Aluminosilicates, biological studies  
 Oxides (inorganic), biological studies  
 Salts, biological studies  
 Silicates, biological studies  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (dental filling and sealing compns. comprising acrylic polymers)
- IT **Dental materials and appliances**  
 (fillings; dental filling and sealing compns. comprising acrylic polymers)
- IT Aluminosilicate glasses  
 Fluoride glasses  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (fluoroaluminosilicate; dental filling and sealing compns. comprising acrylic polymers)
- IT Natural rubber, biological studies  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (gutta-percha; dental filling and sealing compns. comprising acrylic polymers)
- IT **Peroxides, biological studies**  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (organic; dental filling and sealing compns. comprising acrylic polymers)
- IT Tooth  
 (root canal; dental filling and sealing compns. comprising acrylic polymers)
- IT **Dental materials and appliances**  
 (sealants; dental filling and sealing compns. comprising acrylic polymers)
- IT Amines, biological studies  
 RL: DEV (Device component use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (tertiary; dental filling and sealing compns. comprising acrylic polymers)
- IT 50-81-7, Ascorbic acid, biological studies 75-47-8, Iodoform  
 75-91-2, tert-Butyl-hydrogen peroxide 84-74-2, Dibutyl  
 phthalate 94-26-8, Butyl p-hydroxybenzoate 94-36-0, Benzoyl

peroxide, biological studies 97-53-0, Eugenol 99-97-8  
 110-05-4, Di-tert-butyl peroxide 141-17-3,  
 Dibutoxyethoxyethyl adipate 143-29-3, 5,8,11,13,16,19-Hexaoxatricosane  
 618-41-7, Benzenesulfinic acid 873-55-2, Sodium benzenesulfinate  
 1304-76-3, Bismuth III oxide, biological studies 1305-62-0, Calcium  
 hydroxide, biological studies 1314-13-2, Zinc oxide, biological studies  
 3077-12-1 3380-34-5, Triclosan 5892-10-4, Bismuth subcarbonate  
 7440-22-4, Silver, biological studies 7440-24-6,  
 Strontium, biological studies 7440-33-7, Tungsten, biological studies  
 7440-39-3, Barium, biological studies 7440-64-4, Ytterbium, biological  
 studies 7440-65-5, Yttrium, biological studies 7440-66-6, Zinc,  
 biological studies 7440-69-9, Bismuth, biological studies 7631-86-9,  
 Silica, biological studies 7722-84-1, Hydrogenperoxide  
 , biological studies 7727-43-7, Barium sulfate 7783-48-4, Strontium  
 fluoride 7787-32-8, Barium fluoride 12252-40-3,  
 Strontiumaluminosilicate 12737-11-0, Barium tungstate 12788-79-3,  
 Aluminoborosilicate 13709-49-4, Yttrium fluoride 13760-80-0, Ytterbium  
 fluoride 25067-24-7, Polytetramethylene glycol diacrylate 25249-16-5,  
 Polyethylene glycol monomethacrylate 25721-76-0, Polyethylene glycol  
 dimethacrylate 25736-86-1, Polyethylene glycol monomethacrylate  
 25852-47-5, Polyethylene glycol dimethacrylate 25852-49-7, Polypropylene  
 glycol dimethacrylate 26403-58-7, Polyethylene glycol monoacrylate  
 26570-48-9, Polyethylene glycol diacrylate 26652-46-0, Potassium  
 benzenesulfinate 27138-16-5, Toluenesulfinic acid 28158-16-9,  
 Poly(ethylene glycol diacrylate) 28883-57-0, Polytetramethylene glycol  
 dimethacrylate 35255-59-5, Sodium toluenesulfinate 39420-45-6,  
 Polypropylene glycol monomethacrylate 50438-75-0 50858-51-0,  
 Polypropylene glycol monoacrylate 52488-90-1, Zincaluminosilicate  
 52496-08-9, Polypropylene glycol diacrylate 60195-38-2, Barium  
 aluminosilicate 67939-76-8, Polytetramethylene glycol monomethacrylate  
 73310-36-8 154164-86-0 337355-70-1, Aluminum barium silicon fluoride  
 oxide 337355-71-2, Aluminum barium boron silicon oxide 337355-72-3  
 337359-49-6

RL: DEV (Device component use); POF (Polymer in formulation); THU  
 (Therapeutic use); BIOL (Biological study); USES (Uses)

(dental filling and sealing compns. comprising acrylic polymers)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Dentsply Int Inc; EP 0064845 A 1982
- (2) Dentsply Int Inc; EP 0630640 A 1994 HCAPLUS
- (3) Dentsply Int Inc; EP 0630641 A 1994 HCAPLUS
- (4) Essential Dental Systems Inc; WO 9310176 A 1993 HCAPLUS
- (5) Kerr Corp; EP 0988851 A 2000 HCAPLUS

IT 50-81-7, Ascorbic acid, biological studies 75-91-2,  
 tert-Butyl-hydrogen peroxide 94-36-0, Benzoyl  
 peroxide, biological studies 110-05-4, Di-tert-butyl  
 peroxide 7440-22-4, Silver, biological studies  
 7722-84-1, Hydrogenperoxide, biological studies

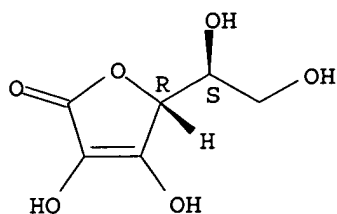
RL: DEV (Device component use); POF (Polymer in formulation); THU  
 (Therapeutic use); BIOL (Biological study); USES (Uses)

(dental filling and sealing compns. comprising acrylic polymers)

RN 50-81-7 HCAPLUS

CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

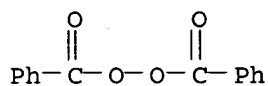
Absolute stereochemistry.



RN 75-91-2 HCAPLUS  
 CN Hydroperoxide, 1,1-dimethylethyl (9CI) (CA INDEX NAME)

HO-O-Bu-t

RN 94-36-0 HCAPLUS  
 CN Peroxide, dibenzoyl (9CI) (CA INDEX NAME)



RN 110-05-4 HCAPLUS  
 CN Peroxide, bis(1,1-dimethylethyl) (9CI) (CA INDEX NAME)

t-Bu-O-O-Bu-t

RN 7440-22-4 HCAPLUS  
 CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7722-84-1 HCAPLUS  
 CN Hydrogen peroxide (H2O2) (9CI) (CA INDEX NAME)

HO-OH

L69 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:452472 HCAPLUS  
 DN 133:64085  
 ED Entered STN: 05 Jul 2000  
 TI Dental adhesive sets  
 IN Imai, Yoji; Suda, Hideaki; Yoshioka, Takatomo; Kataoka, Hiroki; Toita, Tetsuya; So, Ihei  
 PA Sun Medical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM A61K006-00  
 ICS C09J004-00; C09J005-02

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000186010	A2	20000704	JP 1999-248862	19990902
PRAI	JP 1998-256335	A	19980910		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2000186010	ICM	A61K006-00
	ICS	C09J004-00; C09J005-02

AB Dental adhesive sets comprise (A) tooth surface pretreatment sets of (A1) reducing substances, capable of reducing hypochlorous acid metal salts and/or H2O2, placed in the 1st container and (A2) etching materials placed in the 2nd container and (B) dental adhesives containing polymerization initiators and monomers. Bovine dentin was treated with an aqueous solution containing 6 weight% NaClO for sterilization, washed with H2O, treated with an aqueous solution containing 5 weight% ascorbic acid and then with an aqueous solution containing 10 weight% citric acid and 3 weight% FeCl3, and bonded to an acrylic rod with an adhesive composition containing 4-(methacryloyloxyethyl)trimellitic anhydride,

Me

methacrylate, partially oxidized tributylboron, and poly(Me methacrylate). The bonding strength between the dentin and acrylic rod was 11 MPa after 24-h immersion in H2O at 37°.

ST dental adhesive acrylic reducing agent etching; hypochlorite reducing ascorbate citrate dental adhesive; ferric chloride etching dental adhesive acrylic

IT **Dental materials and appliances**

(adhesives; dental acrylic adhesive sets containing hypochlorite- and H2O2-reducing agents and etching materials for pretreatment for high bonding strength)

IT **Polymerization catalysts**

Reducing agents

(dental acrylic adhesive sets containing hypochlorite- and H2O2-reducing agents and etching materials for pretreatment for high bonding strength)

IT Ammine complexes

Hypochlorites

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(dental acrylic adhesive sets containing hypochlorite- and H2O2-reducing agents and etching materials for pretreatment for high bonding strength)

IT 71716-65-9P, 4-(Methacryloyloxyethyl)trimellitic anhydride-methyl methacrylate copolymer

RL: PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(dental acrylic adhesive sets containing hypochlorite- and H2O2-reducing agents and etching materials for pretreatment for high bonding strength)

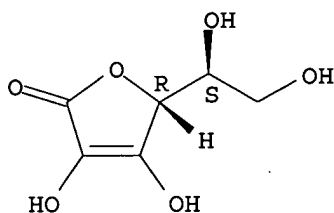
IT 50-81-7, Ascorbic acid, biological studies 77-92-9, Citric acid, biological studies 139-33-3, Disodium ethylenediaminetetraacetate 7664-38-2, Phosphoric acid, biological studies 7681-52-9, Sodium hypochlorite 7705-08-0, Ferric chloride, biological studies 7722-84-1, Hydrogen peroxide, biological studies 7772-98-7, Sodium thiosulfate 15708-41-5, Iron sodium ethylenediaminetetraacetate 34445-07-3, Silver diammine fluoride

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(dental acrylic adhesive sets containing hypochlorite- and H2O2-reducing agents and etching materials for pretreatment for high bonding strength)

IT 122-56-5D, Tributylboron, oxidized  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymerization initiator; dental acrylic adhesive sets containing  
 hypochlorite-  
 and H2O2-reducing agents and etching materials for pretreatment for  
 high bonding strength)  
 IT 50-81-7, Ascorbic acid, biological studies 7722-84-1,  
 Hydrogen peroxide, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (dental acrylic adhesive sets containing hypochlorite- and H2O2-reducing  
 agents and etching materials for pretreatment for high bonding  
 strength)  
 RN 50-81-7 HCAPLUS  
 CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7722-84-1 HCAPLUS  
 CN Hydrogen peroxide (H2O2) (9CI) (CA INDEX NAME)

HO-OH

L69 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:690776 HCAPLUS  
 DN 131:314247  
 ED Entered STN: 29 Oct 1999  
 TI Storage stable polymerizable dental compositions  
 IN Klee, Joachim E.; Walz, Uwe  
 PA Dentsply Detrey G.m.b.H., Germany  
 SO Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM A61K006-083  
 CC 63-7 (Pharmaceuticals)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 951894	A2	19991027	EP 1999-104761	19990310 <--
	EP 951894	A3	20000802		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11343304	A2	19991214	JP 1999-77783	19990323 <--
	US 2002176826	A1	20021128	US 1999-419497	19991018 <--
	US 2004029995	A1	20040212	US 2003-634506	20030805 <--
PRAI	US 1998-64969	A	19980423	<--	
	US 1999-419497	B1	19991018	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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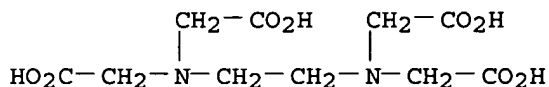
EP 951894 ICM A61K006-083  
 EP 951894 ECLA A61K006/00B; A61K006/083B <--  
 US 2002176826 ECLA A61K006/00B; A61K006/083B <--  
 US 2004029995 ECLA A61K006/00B; A61K006/083B <--  
 OS MARPAT 131:314247  
 AB A composition from 0°C to 40°C and from 0 percent to 100 percent humidity, comprising from 0.2 to 5 percent by weight of at least a **peroxide** which decomp. by at most fifty percent by weight of the **peroxide** within 10 h at a temperature of at least 75 °C, from 0.2 to 3 percent by weight of a **metal** containing material, from 0.1 to 3 percent by weight of a **protected reducing agent**  
 . The **protected reducing agent** is adapted to form an active **reducing agent**, from 0 to 1 percent by weight of an amine. The composition is formed from **peroxide** stored at from 0°C to 40°C and from 0 percent to 100 percent humidity for at least 24 h. Silylated ascorbic acid was prepared and mixed with strontium aluminosilicate glass and Cu thiourea complex to give a powder composition which was mixed with a liquid composition containing 2-dimethylaminoethyl methacrylate, TEGDMA, tert-**butylperoxy** (3,5,5-trimethylhexanoate), N,N-bis(hydroxyethyl)-p-toluidine and 2,6-di-tert-butyl-p-cresol, giving a **dental composite**.  
 ST **dental composite** polymerizable compn storage stable  
 IT **Dental materials and appliances**  
 (composites; storage stable polymerizable compns.)  
 IT **Polymerization catalysts**  
 (storage stable polymerizable compns.)  
 IT **Peroxides, biological studies**  
 RL: CAT (Catalyst use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (storage stable polymerizable compns.)  
 IT **60-00-4D, Edta, metal complexes 62-56-6D, Thiourea, metal complexes, biological studies 64-19-7D, Acetic acid, metal complexes, biological studies 69-72-7D, Salicylic acid, metal complexes 75-91-2, tert-Butyl hydroperoxide 80-15-9, Cumen hydroperoxide 110-05-4, Di(tert-butyl) peroxide 123-54-6D, Acetylacetone, metal complexes 614-45-9, tert-Butylperoxybenzoate 2618-77-1, 2,5-Dimethyl-2,5-bis(benzoylperoxy)hexane 7439-89-6D, Iron, complexes, biological studies 7439-96-5D, Manganese, complexes, biological studies 7440-02-0D, Nickel, complexes, biological studies 7440-22-4D, Silver, complexes, biological studies 7440-45-1D, Cerium, complexes, biological studies 7440-47-3D, Chromium, complexes, biological studies 7440-50-8D, Copper, complexes, biological studies 7440-62-2D, Vanadium, complexes, biological studies 13122-18-4, tert-Butylperoxy-(3,5,5-trimethylhexanoate) 34443-12-4, tert-Butylperoxy-2-ethylhexyl carbonate 52340-35-9 126248-80-4, Peroxide, 1,1-dimethylethyl pentyl**  
 RL: CAT (Catalyst use); POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (storage stable polymerizable compns.)  
 IT **247188-77-8P 247188-78-9P**  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (storage stable polymerizable compns.)  
 IT 109-16-0, Tegdma 2867-47-2  
 RL: POF (Polymer in formulation); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
 (storage stable polymerizable compns.)

IT 100-52-7, Benzaldehyde, reactions 137-66-6 999-97-3,  
Hexamethyldisilazane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(storage stable polymerizable compns.)

IT 60-00-4D, Edta, metal complexes 62-56-6D,  
Thiourea, metal complexes, biological studies 64-19-7D  
, Acetic acid, metal complexes, biological studies  
69-72-7D, Salicylic acid, metal complexes  
75-91-2, tert-Butyl hydroperoxide 80-15-9,  
Cumene hydroperoxide 110-05-4, Di(tert-butyl)  
peroxide 123-54-6D, Acetylacetone, metal  
complexes 614-45-9, tert-Butylperoxybenzoate  
2618-77-1, 2,5-Dimethyl-2,5-bis(benzoylperoxy)hexane  
7439-89-6D, Iron, complexes, biological studies  
7439-96-5D, Manganese, complexes, biological studies  
7440-02-0D, Nickel, complexes, biological studies  
7440-22-4D, Silver, complexes, biological studies  
7440-45-1D, Cerium, complexes, biological studies  
7440-47-3D, Chromium, complexes, biological studies  
7440-50-8D, Copper, complexes, biological studies  
7440-62-2D, Vanadium, complexes, biological studies  
13122-18-4, tert-Butylperoxy-(3,5,5-trimethylhexanoate)  
34443-12-4, tert-Butylperoxy-2-ethylhexyl carbonate  
126248-80-4, Peroxide, 1,1-dimethylethyl pentyl  
RL: CAT (Catalyst use); POF (Polymer in formulation); THU (Therapeutic  
use); BIOL (Biological study); USES (Uses)  
(storage stable polymerizable compns.)

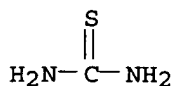
RN 60-00-4 HCAPLUS

CN Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)- (9CI) (CA INDEX NAME)



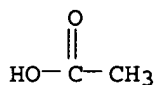
RN 62-56-6 HCAPLUS

CN Thiourea (9CI) (CA INDEX NAME)



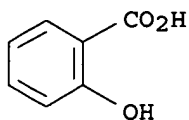
RN 64-19-7 HCAPLUS

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

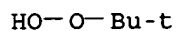


RN 69-72-7 HCAPLUS

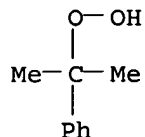
CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



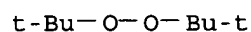
RN 75-91-2 HCAPLUS  
 CN Hydroperoxide, 1,1-dimethylethyl (9CI) (CA INDEX NAME)



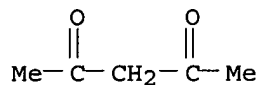
RN 80-15-9 HCAPLUS  
 CN Hydroperoxide, 1-methyl-1-phenylethyl (9CI) (CA INDEX NAME)



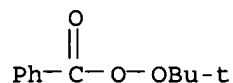
RN 110-05-4 HCAPLUS  
 CN Peroxide, bis(1,1-dimethylethyl) (9CI) (CA INDEX NAME)



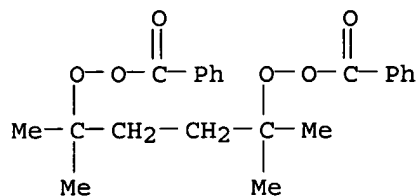
RN 123-54-6 HCAPLUS  
 CN 2,4-Pentanedione (8CI, 9CI) (CA INDEX NAME)



RN 614-45-9 HCAPLUS  
 CN Benzenecarboperoxoic acid, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 2618-77-1 HCAPLUS  
 CN Benzenecarboperoxoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester (9CI)  
 (CA INDEX NAME)



RN 7439-89-6 HCAPLUS  
 CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7439-96-5 HCAPLUS  
CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 7440-02-0 HCAPLUS  
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-22-4 HCAPLUS  
CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7440-45-1 HCAPLUS  
CN Cerium (8CI, 9CI) (CA INDEX NAME)

Ce

RN 7440-47-3 HCAPLUS  
CN Chromium (8CI, 9CI) (CA INDEX NAME)

Cr

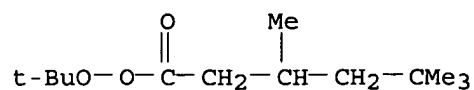
RN 7440-50-8 HCAPLUS  
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

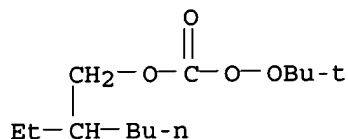
RN 7440-62-2 HCAPLUS  
CN Vanadium (8CI, 9CI) (CA INDEX NAME)

V

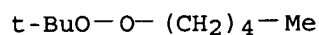
RN 13122-18-4 HCAPLUS  
CN Hexaneperoxoic acid, 3,5,5-trimethyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 34443-12-4 HCAPLUS  
 CN Carbonoperoxoic acid, OO-(1,1-dimethylethyl) O-(2-ethylhexyl) ester (9CI)  
 (CA INDEX NAME)

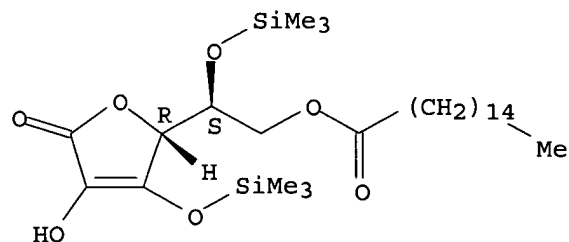


RN 126248-80-4 HCAPLUS  
 CN Peroxide, 1,1-dimethylethyl pentyl (9CI) (CA INDEX NAME)



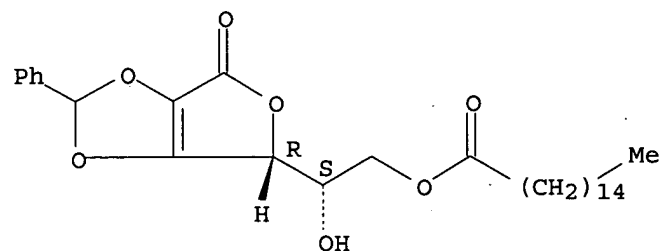
IT 247188-77-8P 247188-78-9P  
 RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (storage stable polymerizable compns.)  
 RN 247188-77-8 HCAPLUS  
 CN L-Ascorbic acid, 3,5-bis-O-(trimethylsilyl)-, 6-hexadecanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



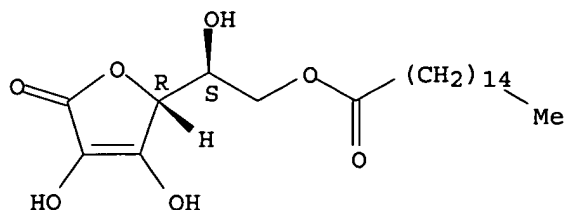
RN 247188-78-9 HCAPLUS  
 CN L-Ascorbic acid, 2,3-O-(phenylmethylene)-, 6-hexadecanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 137-66-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (storage stable polymerizable compns.)  
 RN 137-66-6 HCAPLUS  
 CN L-Ascorbic acid, 6-hexadecanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L69 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:659020 HCAPLUS

DN 131:277014

ED Entered STN: 15 Oct 1999

TI Self-curing polymeric dental adhesive

IN Klee, Joachim E.; Walz, Uwe; Lu, Kawang

PA Dentsply Detrey G.m.b.H., Germany

SO Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM A61K006-083

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 948956	A2	19991013	EP 1999-106331	19990326 <--
	EP 948956	A3	20000719		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11322526	A2	19991124	JP 1999-85776	19990329 <--
	US 2002058726	A1	20020516	US 2002-44893	20020110 <--
	US 2002103272	A1	20020801	US 2002-114352	20020402 <--
PRAI	US 1998-79777P	P	19980327	<--	
	US 1999-274710	A3	19990323		
	US 2000-541639	B1	20000403		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
EP 948956	ICM	A61K006-083	
EP 948956	ECLA	A61K006/00B; A61K006/083B	<--
US 2002058726	ECLA	A61K006/00B; A61K006/083B	<--
US 2002103272	ECLA	A61K006/00B; A61K006/083B	<--

AB A self-curing dental adhesive comprises (1) at least one polymerizable resin; (2) at least one polymerizable monomer; (3) at least one polymerizable monomer with an acidic moiety and salts thereof; (4) a stabilizer; (5) an organic solvent or water in a content of .apprx. 10-90% by weight; and, (6) at least one part of a thermal redox initiator system or a photoinitiator. The adhesive polymerizes immediately after application of a self-curing dental restorative material that comprises a metal-based redox-initiator system, and has an adhesion to dentin of at least .apprx. 7 MPa. A dental adhesive was prepared by dissolving dimethacrylate R 5621, dipentaerythritol pentaacrylate monophosphate, a dioxodiazahexadecanediyl-dimethacrylate derivative, bisphenol A dimethacrylate, cetylamine hydrofluoride, di-tert-butyl-p-cresol and Cu(II) acetylacetonate in acetone. The adhesive was used with a self-curing dental restorative material composed of a powder and a liquid

ST polymer **dental** adhesive restorative self curing; polymn catalyst  
**dental** adhesive self curing; fluoride **dental** adhesive  
restorative self curing

IT **Peroxides, uses**  
RL: CAT (Catalyst use); USES (Uses)  
(acyl; polymerization catalysts for self-curing **dental** adhesives and  
restorative materials)

IT **Dental materials and appliances**  
(adhesives; polymerization catalysts for self-curing **dental**  
adhesives and restorative materials)

IT **Hydroperoxides**  
**Peroxides, uses**  
RL: CAT (Catalyst use); USES (Uses)  
(alkyl; polymerization catalysts for self-curing **dental** adhesives  
and restorative materials)

IT Silicate glasses  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(aluminum strontium silicate, silylated; polymerization catalysts for  
self-curing **dental** adhesives and restorative materials)

IT Amines, uses  
RL: CAT (Catalyst use); USES (Uses)  
(aralkyl; polymerization catalysts for self-curing **dental** adhesives  
and restorative materials)

IT **Crosslinking**  
(autocrosslinking; polymerization catalysts for self-curing **dental**  
adhesives and restorative materials)

IT Amines, uses  
RL: CAT (Catalyst use); USES (Uses)  
(dialkylaryl; polymerization catalysts for self-curing **dental**  
adhesives and restorative materials)

IT **Dental materials and appliances**  
(fillings; polymerization catalysts for self-curing **dental** adhesives  
and restorative materials)

IT Esters, uses  
Ketals  
RL: CAT (Catalyst use); USES (Uses)  
(**peroxy**; polymerization catalysts for self-curing **dental**  
adhesives and restorative materials)

IT Carbonates, uses  
Carbonates, uses  
**Peroxides, uses**  
**Peroxides, uses**  
RL: CAT (Catalyst use); USES (Uses)  
(**peroxycarbonates**; polymerization catalysts for self-curing  
**dental** adhesives and restorative materials)

IT **Polymerization catalysts**  
(photopolymn.; polymerization catalysts for self-curing **dental**  
adhesives and restorative materials)

IT Stabilizing agents  
(polymerization catalysts for self-curing **dental** adhesives and  
restorative materials)

IT **Peroxides, uses**  
RL: CAT (Catalyst use); USES (Uses)  
(polymerization catalysts for self-curing **dental** adhesives and  
restorative materials)

IT **Polymers, biological studies**  
RL: FMU (Formation, unclassified); PRP (Properties); THU (Therapeutic  
use); BIOL (Biological study); FORM (Formation, nonpreparative); USES  
(Uses)  
(polymerization catalysts for self-curing **dental** adhesives and  
restorative materials)

IT **Polymerization catalysts**  
(redox, thermal; polymerization catalysts for self-curing **dental**

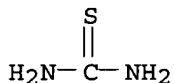
- adhesives and restorative materials)
- IT Naphthenic acids, uses  
RL: CAT (Catalyst use); USES (Uses)  
(salts; polymerization catalysts for self-curing **dental** adhesives and restorative materials)
- IT **Polymerization**  
(self-curing **dental** adhesives and restorative materials)
- IT Amines, uses  
RL: CAT (Catalyst use); USES (Uses)  
(tertiary; polymerization catalysts for self-curing **dental** adhesives and restorative materials)
- IT **Polymerization catalysts**  
(thermal, redox; polymerization catalysts for self-curing **dental** adhesives and restorative materials)
- IT 62-56-6D, Thiourea, complex with Cu(2+), uses  
62-56-6D, Thiourea, **metal** complexes, uses  
64-19-7D, Acetic acid, **metal** salts, uses  
69-72-7D, Salicylic acid, **metal** salts 75-91-2, tert-Butylhydroperoxide 80-15-9, Cumenhydroperoxide 94-36-0, Benzoylperoxide, uses 110-05-4, Di-(tert-butyl) peroxide 123-54-6D, Acetylacetone, **metal** complexes 128-37-0, 2,6-Di-tert-butyl-p-cresol, uses 614-45-9, tert-Butyl peroxy benzoate 2618-77-1, 2,5-Dimethyl-2,5-di(benzoylperoxy)hexane 2895-03-6, Lauryl peroxide 3151-59-5, Cetylamine hydrofluoride 6427-64-1D, **metal** salts 7439-89-6D, Iron, salts, uses 7439-96-5D, Manganese, salts, uses 7440-02-0D, Nickel, salts, uses 7440-22-4D, Silver, salts, uses 7440-45-1D, Cerium, salts, uses 7440-47-3D, Chromium, salts, uses 7440-50-8D, Copper, salts, uses 7440-62-2D, Vanadium, salts, uses 13122-18-4, tert-Butylperoxy-(3,5,5-trimethylhexanoate) 13395-16-9, Cupric acetylacetonate 15158-11-9D, Copper 2+, complex with thiourea, uses 34443-12-4, tert-Butylperoxy -2-ethylhexyl carbonate 126248-80-4  
RL: CAT (Catalyst use); USES (Uses)  
(polymerization catalysts for self-curing **dental** adhesives and restorative materials)
- IT 212059-04-6, Prime & Bond 2.1  
RL: POF (Polymer in formulation); USES (Uses)  
(polymerization catalysts for self-curing **dental** adhesives and restorative materials)
- IT 1565-94-2 2358-84-1 2867-47-2 3077-12-1 3253-39-2 10287-53-3  
15625-89-5, Trimethylolpropane triacrylate 87699-25-0, Dipentaerythritol pentaacrylate monophosphate 105883-40-7 127312-03-2, R 5621 245741-67-7  
RL: POF (Polymer in formulation); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(polymerization catalysts for self-curing **dental** adhesives and restorative materials)
- IT 16984-48-8, Fluoride, biological studies  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(self-curing **dental** adhesives and restorative materials for fluoride release)
- IT 50-81-7, L-Ascorbic acid, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(self-curing **dental** adhesives and restorative materials for fluoride release)
- IT 67-64-1, 2-Propanone, properties  
RL: PRP (Properties)  
(solvent; polymerization catalysts for self-curing **dental** adhesives



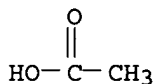
and restorative materials)

IT 62-56-6D, Thiourea, complex with Cu(2+), uses  
 64-19-7D, Acetic acid, metal salts, uses  
 69-72-7D, Salicylic acid, metal salts 75-91-2,  
 tert-Butylhydroperoxide 80-15-9,  
 Cumenhydroperoxide 94-36-0, Benzoylperoxide,  
 uses 110-05-4, Di-(tert-butyl) peroxide  
 123-54-6D, Acetylacetone, metal complexes  
 614-45-9, tert-Butyl peroxy benzoate 2618-77-1  
 , 2,5-Dimethyl-2,5-di(benzoylperoxy)hexane 7439-89-6D,  
 Iron, salts, uses 7439-96-5D, Manganese,  
 salts, uses 7440-02-0D, Nickel, salts, uses  
 7440-22-4D, Silver, salts, uses 7440-45-1D,  
 Cerium, salts, uses 7440-47-3D, Chromium,  
 salts, uses 7440-50-8D, Copper, salts, uses  
 7440-62-2D, Vanadium, salts, uses 13122-18-4,  
 tert-Butylperoxy-(3,5,5-trimethylhexanoate) 34443-12-4  
 , tert-Butylperoxy-2-ethylhexyl carbonate 126248-80-4  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymerization catalysts for self-curing dental adhesives and  
 restorative materials)

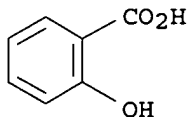
RN 62-56-6 HCAPLUS  
 CN Thiourea (9CI) (CA INDEX NAME)



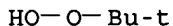
RN 64-19-7 HCAPLUS  
 CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



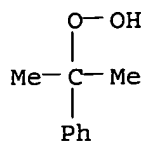
RN 69-72-7 HCAPLUS  
 CN Benzoic acid, 2-hydroxy- (9CI) (CA INDEX NAME)



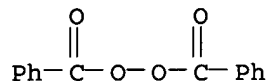
RN 75-91-2 HCAPLUS  
 CN Hydroperoxide, 1,1-dimethylethyl (9CI) (CA INDEX NAME)



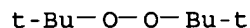
RN 80-15-9 HCAPLUS  
 CN Hydroperoxide, 1-methyl-1-phenylethyl (9CI) (CA INDEX NAME)



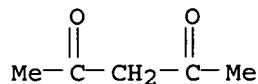
RN 94-36-0 HCAPLUS  
CN Peroxide, dibenzoyl (9CI) (CA INDEX NAME)



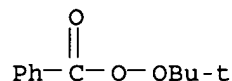
RN 110-05-4 HCAPLUS  
CN Peroxide, bis(1,1-dimethylethyl) (9CI) (CA INDEX NAME)



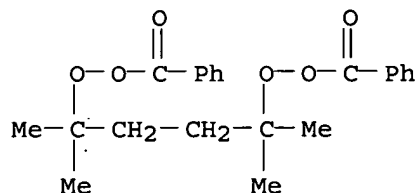
RN 123-54-6 HCAPLUS  
CN 2,4-Pentanedione (8CI, 9CI) (CA INDEX NAME)



RN 614-45-9 HCAPLUS  
CN Benzenecarboperoxoic acid, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 2618-77-1 HCAPLUS  
CN Benzenecarboperoxoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester (9CI)  
(CA INDEX NAME)



RN 7439-89-6 HCAPLUS  
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7439-96-5 HCAPLUS  
CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 7440-02-0 HCAPLUS  
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-22-4 HCAPLUS  
CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7440-45-1 HCAPLUS  
CN Cerium (8CI, 9CI) (CA INDEX NAME)

Ce

RN 7440-47-3 HCAPLUS  
CN Chromium (8CI, 9CI) (CA INDEX NAME)

Cr

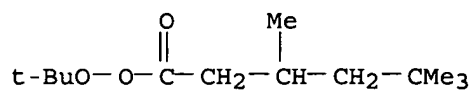
RN 7440-50-8 HCAPLUS  
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

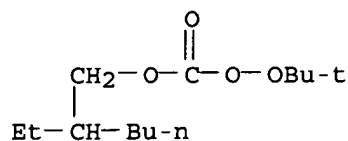
RN 7440-62-2 HCAPLUS  
CN Vanadium (8CI, 9CI) (CA INDEX NAME)

V

RN 13122-18-4 HCAPLUS  
CN Hexaneperoxoic acid, 3,5,5-trimethyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 34443-12-4 HCAPLUS  
CN Carbonoperoxoic acid, OO-(1,1-dimethylethyl) O-(2-ethylhexyl) ester (9CI) (CA INDEX NAME)



RN 126248-80-4 HCAPLUS

CN Peroxide, 1,1-dimethylethyl pentyl (9CI) (CA INDEX NAME)

t-BuO-O- (CH<sub>2</sub>)<sub>4</sub>-Me

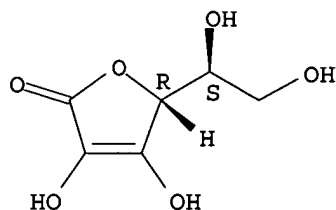
IT 50-81-7, L-Ascorbic acid, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(self-curing **dental** adhesives and restorative materials for  
fluoride release)

RN 50-81-7 HCAPLUS

CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



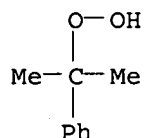
L69 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1980:28534 HCAPLUS  
DN 92:28534  
ED Entered STN: 12 May 1984  
TI New initiator systems for **dental** resins based on ascorbic acid  
AU Antonucci, J. M.; Grams, C. L.; Termini, D. J.  
CS Dent. Med. Mater., Natl. Bur. Stand., Washington, DC, 20234, USA  
SO Journal of Dental Research (1979), 58(9), 1887-99  
CODEN: JDREAF; ISSN: 0022-0345  
DT Journal  
LA English  
CC 63-7 (Pharmaceuticals)  
AB Several promising initiator systems for the ambient polymerization of **dental** monomers were developed utilizing the oxidation-reduction reactions of certain organic **peroxides** and certain transition **metal** compds. with L-(+)-ascorbic acid [50-81-7] and its derivs.  
ST initiator **dental** resin ascorbate; acceleration ascorbate **dental** resin  
IT **Dental materials and fillings**  
(resins, polymerization initiator systems containing ascorbate for)  
IT **Polymerization catalysts**  
(redox, ascorbate, for **dental** resins)  
IT 109-16-0 868-77-9 868-77-9D, diadduct with trimethylhexamethylene diisocyanate 1565-94-2 1985-51-9 3315-27-3 10552-43-9 19368-81-1 28679-16-5D, diadduct of hydroxyethyl methacrylate with 35057-36-4 56745-16-5  
RL: BIOL (Biological study)

(in **dental** resins, polymerization initiator system containing ascorbate for)

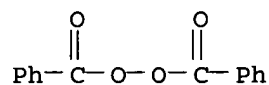
- IT 52-90-4, biological studies 75-91-2 80-15-9  
 94-36-0, biological studies 142-71-2 614-45-9  
 1931-62-0 2618-77-1 7798-23-4 14128-84-8 16048-96-7  
 RL: BIOL (Biological study)  
 (polymerization initiator system containing ascorbate and, for **dental** resins)
- IT 50-81-7, biological studies 137-66-6  
 RL: BIOL (Biological study)  
 (polymerization initiator systems containing, for **dental** resins)
- IT 75-91-2 80-15-9 94-36-0, biological studies  
 614-45-9 2618-77-1  
 RL: BIOL (Biological study)  
 (polymerization initiator system containing ascorbate and, for **dental** resins)
- RN 75-91-2 HCAPLUS  
 CN Hydroperoxide, 1,1-dimethylethyl (9CI) (CA INDEX NAME)

HO-O-Bu-t

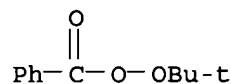
- RN 80-15-9 HCAPLUS  
 CN Hydroperoxide, 1-methyl-1-phenylethyl (9CI) (CA INDEX NAME)



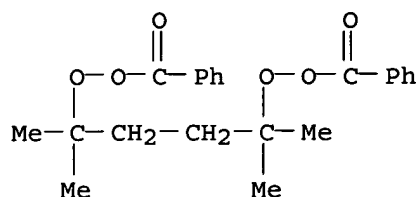
- RN 94-36-0 HCAPLUS  
 CN Peroxide, dibenzoyl (9CI) (CA INDEX NAME)



- RN 614-45-9 HCAPLUS  
 CN Benzenecarboperoxoic acid, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



- RN 2618-77-1 HCAPLUS  
 CN Benzenecarboperoxoic acid, 1,1,4,4-tetramethyl-1,4-butanediyl ester (9CI)  
 (CA INDEX NAME)



IT 50-81-7, biological studies 137-66-6

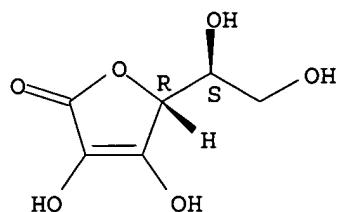
RL: BIOL (Biological study)

(polymerization initiator systems containing, for **dental** resins)

RN 50-81-7 HCAPLUS

CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

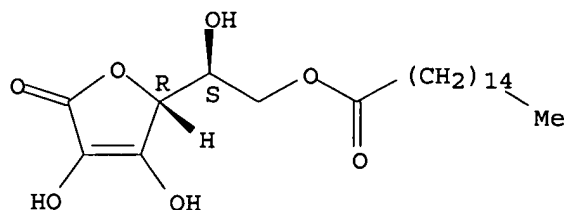
Absolute stereochemistry.



RN 137-66-6 HCAPLUS

CN L-Ascorbic acid, 6-hexadecanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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